CAR-3020 Series

Communication Appliance

User's Manual

Revision: 1.0

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Chapter 1 Introduction

1.1 About This Manual

This manual contains all required information for setting up and using the CAR-3020 series.

CAR-3020 provides the essential platform for delivering optimal performance and functionality in the value communications appliance market segment. This manual should familiarize you with CAR-3020 operations and functions. CAR-3020 series provide up to six on-board Ethernet ports to serve communication applications like Firewall, requiring six Ethernet ports to connect external network (internet), demilitarized zone and internal network.

CAR-3020 series overview:

- Intel® Sandy Bridge® E3-1125C
- Intel® QuickAssist Technology via Cave Creek PCH
- Up to 16GB support un-buffered DDR3 1333
- Two USB ports and two COM ports
- Two SATA connectors for SATA Hard disk
- One PCI-E x8 or two x4 interface
- Provides absolute high flexibility of customized I/O configuration

1.2 Manual Organization

This manual describes how to configure your CAR-3020 system to meet various operating requirements. It is divided into three chapters, with each chapter addressing the basic concept and operation of this system.

Chapter 1: Introduction. This section describes how this document is organized. It includes brief guidelines and overview to help find necessary information.

Chapter 2: Hardware Configuration Setting and Installation. This chapter demonstrated the hardware assembly procedure, including detailed information. It shows the definitions and locations of Jumpers and Connectors that can be used to configure the system.

Chapter 3: Operation Information. This section provides illustrations and information on the system architecture and how to optimize its performance.

1.3 Technical Support Information

Users may find helpful tips or related information on Portwell's web site: http://www.portwell.com
A direct contact to Portwell's technical person is also available. For further support, users may also contact Portwell's headquarter in Taipei or local distributors.

Taipei Office Phone Number: +886-2-7705-8888

Figure 1-1 Board Layout of CAR-3020 M/B

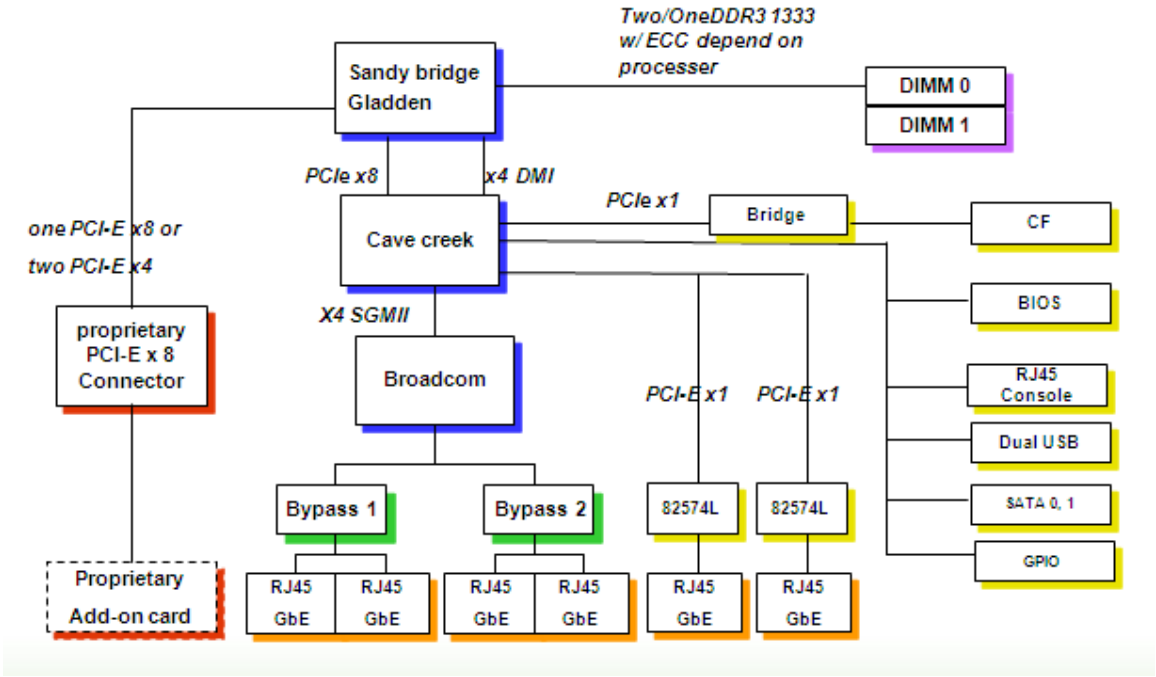


Figure 1-2 CAR-3020 Basic Block Diagram

1.6 Product Specifications

1.

<table>
<tr><th>#</th><th>Feature</th><th>Detailed Description</th></tr>
<tr><td>1</td><td>CPU</td><td>Intel Sandy Bridge E3-1125C</td></tr>
<tr><td>2</td><td>CPU Board</td><td>◆ CAPB-3020VR with Intel Cave Creek PCH</td></tr>
<tr><td>3</td><td>System Memory</td><td>◆ 2 DIMM slots.
◆ Supports un-buffered DDR3 1333
◆ Up to 16GB</td></tr>
<tr><td>4</td><td>Power Supply</td><td>◆ Full range ATX PSU with total 250W power output will be required.
◆ Dimension: 180 x 100 x 40.5 mm</td></tr>
<tr><td>5</td><td>Ethernet</td><td>◆ 6 Copper GbE LAN ports on board</td></tr>
<tr><td>6</td><td>SATA & IDE Interfaces</td><td>◆ Two SATA Interfaces on board</td></tr>
<tr><td>7</td><td>Front Panel</td><td>◆ 6 RJ-45 connector for PCI-E (x1) GbE interfaces
◆ Hardware Reset Button
◆ System LED: Power, Data access.
◆ Bypass LED
◆ Ethernet LED: For every Ethernet interface there should be LEDs for link status and speed of LAN-ports.</td></tr>
<tr><td>8</td><td>Rear Panel</td><td>◆ AC power inlet
◆ On/Off switch
◆ Fan opening for system ventilation.</td></tr>
<tr><td>9</td><td>Golden finger</td><td>◆ One PCI-E x8 GF reserved for proprietary daughter card in R/M</td></tr>
<tr><td>10</td><td>Dimension</td><td>◆ 438(W) x 292.1(D) x 44(H) mm
◆ 17.25”(W) x 11.5”(D) x 1.73”(H)</td></tr>
<tr><td>11</td><td>Environmental requirement</td><td>
<table>
<tr><td></td><td>Operating</td><td>Storage</td></tr>
<tr><td>Acoustics</td><td>< 55dB</td><td>--</td></tr>
<tr><td>Temperature</td><td>0℃ to 40℃</td><td>-20℃ to 75℃</td></tr>
<tr><td>Relative Humidity</td><td>10 to 90% RH</td><td>5 to 95% RH</td></tr>
<tr><td>Shock</td><td>0.5 Sine shock, 10G peak, 10 +/- 3 ms on (X,Y,Z) axis</td><td></td></tr>
<tr><td>Vibration</td><td>0.5G (Peak) / 5~500 Hz, 2hours</td><td>(Packaged) Sine Wave,2.0G / ~500 Hz,</td></tr>
</table>
</td></tr>
</table>

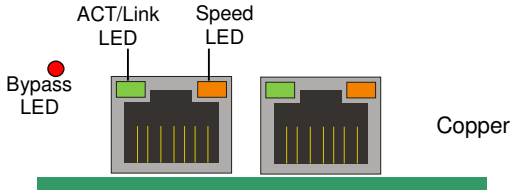
#	Feature	Detailed Description		
			at each of Z axis	2hours at each axis(X,Y,Z)
		Transportation		(Packaged) 0.5 sine shock, 50G peak on each surface.
		Drop		(Packaged) H= 1.2M
		Random Vibration		(Packaged) Sine Wave,2.8G / 5~500 Hz, 1hours at each axis(X,Y,Z)

1. Power and Data-access LED

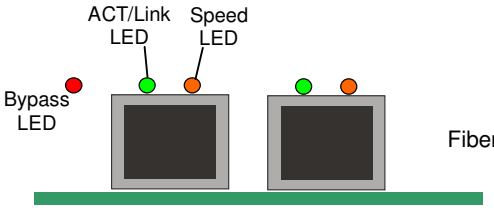
Lettering	Symbol	Function	Color	Signaling
PWR		Power status	Green	Off – No power, system off. On – Power good, system on.
Data Access		Data Access	Red	Off – no data access through IDE or SATA channel On – data is in transition through IDE or SATA channel

2. Ethernet LED

Label	Color	Indication	Status
ACT/LINK	**Green Or Others**	**On**	1. The Ethernet port is receiving power. 2. Good linkage between the Ethernet port and its supporting hub.
		Off	1. The adapter and switch are not receiving power. 2. No connection between both ends of network cable. 3. The drivers of Ethernet have not been loaded or does not function correctly.
	Green Or Others	**Flashing**	The adapter is sending or receiving network data. The frequency of the flashes varies with the amount of network traffic.
SPEED	**Yellow**	**On**	ACT/LNK LED must on then this LED show the operating at 1000 Mbps. If ACT/LINK is off and this function will be disable.
	Green	**On**	ACT/LNK LED must on then this LED show the operating at 100 Mbps. If ACT/LINK is off and this function will be disable.
		Off	ACT/LNK LED must on then this LED show the operating at 10 Mbps. If ACT/LINK is off and this function will be disable.



Copper Ethernet Interface



Fiber/SFP Ethernet Interface

3. Bypass LED

LED Status	green	red	off
Bypass Mode/Status	normal mode	bypass mode, triggered by WDT expiring	power off, in normal or bypass mode which is defined by customer

Chapter 2 Getting Started

This section describes how the hardware installation and system settings should be done.

2.1 Included Hardware

The following hardware is included in package:

- CAR-3020 Communication Appliance System Board
- One null serial port cable

Note: "Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

2.2 Before You Begin

To prevent damage to any system board, it is important to handle it with care. The following measures are generally sufficient to protect your equipment from static electricity discharge:

When handling the board, use a grounded wrist strap designed for static discharge elimination and touches a grounded metal object before removing the board from the antistatic bag. Handle the board by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.

When handling processor chips or memory modules, avoid touching their pins or gold edge fingers. Restore the communications appliance system board and peripherals back into the antistatic bag when they are not in use or not installed in the chassis.

Some circuitry on the system board can continue operating even though the power is switched off. Under no circumstances should the Lithium battery cell used to power the real-time clock be allowed to be shorted. The battery cell may heat up under these conditions and present a burn hazard.

WARNING!

"CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS"

This guide is for technically qualified personnel who have experience installing and configuring system boards. Disconnect the system board power supply from its power source before you connect/disconnect cables or install/remove any system board components. Failure to do this can result in personnel injury or equipment damage.

Avoid short-circuiting the lithium battery; this can cause it to superheat and cause burns if touched.

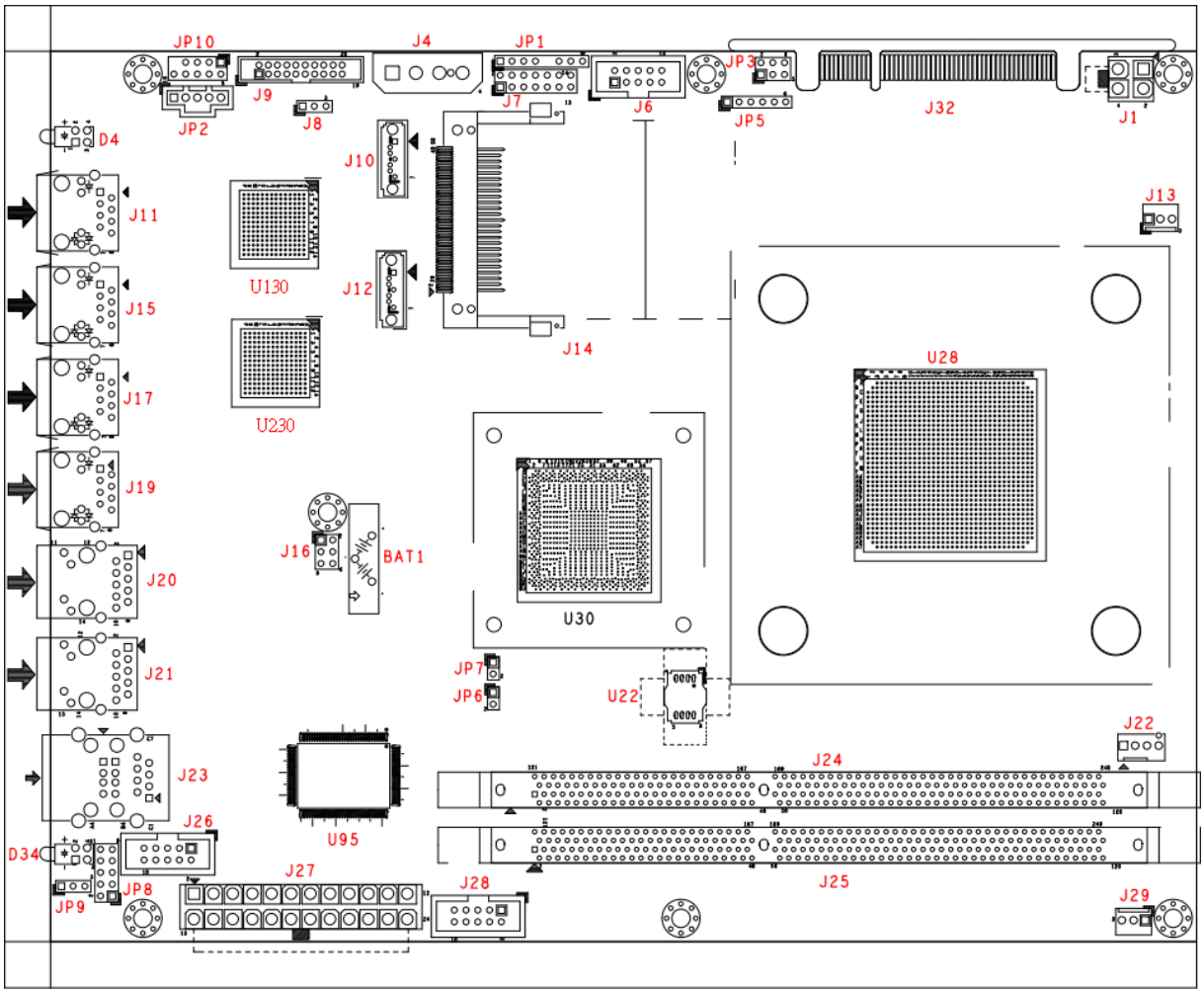
Do not operate the processor without a thermal solution. Damage to the processor can occur in seconds.

Do not block air vents. Minimum 1/2-inch clearance required.

2.3.1 CAR-3020 System Board Jumper

In general, jumpers on CAR-3020 system board are used to select options for certain features. Some of the jumpers are configurable for system enhancement. The others are for testing purpose only and should not be altered. To select any option, cover the jumper cap over (Short) or remove (NC) it from the jumper pins according to the following instructions. Here NC stands for “Not Connected”.

CAPB-3020 Jumper setting: (Default setting：*)



Connector	Function	Remark
J1	ATX 2x2P +12V Power Connector	
J4	+5V & +12V power connector(only output)	
J6	KB + MS Header	
J7	Onboard Front Panel Header	
J8	Module ID PGM Header	
J9	TPM Header	
J10、J12	SATA Connector	
J11、J15、J17、J19	RJ45 Barnesville Connector	
J13、J29	SYS FAN Connector	
J14	CF connector	
J16	CMOS Clear Header	
J20、J21	RJ45 82574L Connector	

J22	CPU FAN Connector	
J23	USB + Console Connector	
J24、J25	Memory Slot	
J26	USB Header	
J27	ATX 24P Power Connector	
J28	COM2 Header	
JP1	Bypass Controller Programming Header	
JP2	Bypass SMB Header	
JP3、JP5	MCU Programming Header	
JP7	PCH GPIO control SYS_RST Header	
JP8	GPIO Header	
JP9	GPIO Power Select Header	
JP10	Debug Header	
D4	Bypass LED	
D16、D21	LAN Link Status	
D17、D24	LAN Rate Status	
D34	(SATA HDD / CF) LED & VCC Status LED	
SW1	Default Switch	
SW2	SYS Reset Switch	
U22	SPI Flash Socket For BIOS	
U29	GbE EEPROM Socket	
BAT1	CR2032 Battery Holder	

J6: KB+MS Header Definition

Pin	Signal Name	Pin	Signal Name
1	Mouse DAT	2	Keyboard DAT
3	NC	4	NC
5	GND	6	GND
7	+5V	8	+5V
9	Mouse CLOCK	10	Keyboard CLOCK

J7: Onboard Front Panel Header Definition

Pin	Signal Name	Pin	Signal Name
1	+5V	2	+5V
3	HDD_LED	4	GND

5	GND	6	Power_SW
7	SYS_RST	8	GND
9	DEFAULT	10	GND
11	+5V	12	+5V
13	PCH_GP20	14	PCH_GP32

J8 : Module ID PGM Header Definition

Pin	Signal Name
1	SGMI_SMBDAT
2	GND
3	SGMI_SMBCLK

J13、J29 : SYS FAN Connector Definition

Pin	Signal Name
1	GND
2	+12V
3	FAN SPEED IN

J16: CMOS Clear Header Definition

J16、J18	Function
1-3,2-4 Short	Normal Operation ★
3-5,4-6 Short	Clear CMOS Contents

J22 : CPU FAN Connector Definition

Pin	Signal Name
1	GND
2	+12V
3	FAN SPEED IN
4	NC

JP1 : Bypass Controller Programming Header Definition

Pin	Signal Name	Pin	Signal Name
1	+5V		
2	BP_TDO	6	BP_TMS
3	BP_TDI	7	BP_TCK
4	GND	8	GND

JP2 : Bypass SMB Header Definition

Pin	Signal Name
1	BP_SMBCLK
2	BP_SMBDAT
3	PCH_SMBALERT
4	GND
5	+3.3V

JP8: GPIO Header

Pin	Signal Name	Pin	Signal Name
1	GPIO33	2	GPIO37
3	GPIO32	4	GPIO36
5	GPIO31	6	GPIO35
7	GPIO30	8	GPIO34
9	GND	10	Power

JP9 : GPIO Power Select Header Definition

JP9	Function
1-2 Short	+5V power source
2-3 Short	+3.3V power source ★

JP10 : Debug Header Definition

Pin	Signal Name	Pin	Signal Name

1	LAD0	2	+3.3V
3	LAD1	4	RESET#
5	LAD2	6	LFRAME#
7	LAD3	8	CLOCK
9	NC	10	GND

2.4 The Chassis

The system is integrated in a customized 1U chassis (***Fig. 2-1, Fig. 2-2***). On the front panel you will find, six LAN ports, two USB ports and a COM port.

CAR-3020

Fig. 2-1 *Front view of the chassis*

Fig. 2-2 *Rear view of the chassis*

1. Loosen the 6 screws of the chassis, two on each side and the rest two on the back, to remove the top lead (***Fig. 2-3***).

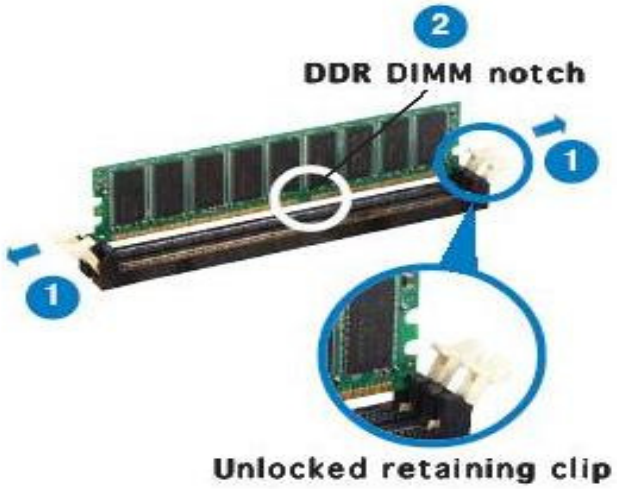
Fig. 2-3 *Take off screws*

2. The top lead (***Fig. 2-4***) can be removed from the base stand (***Fig. 2-5***).

Follow these steps to upgrade RAM module:

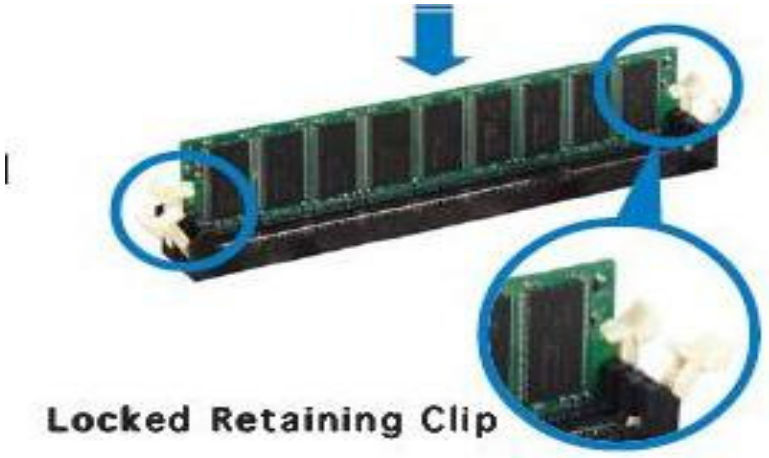
Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

1. Unlock a DIMM socket by pressing the retaining clips outward
2. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket



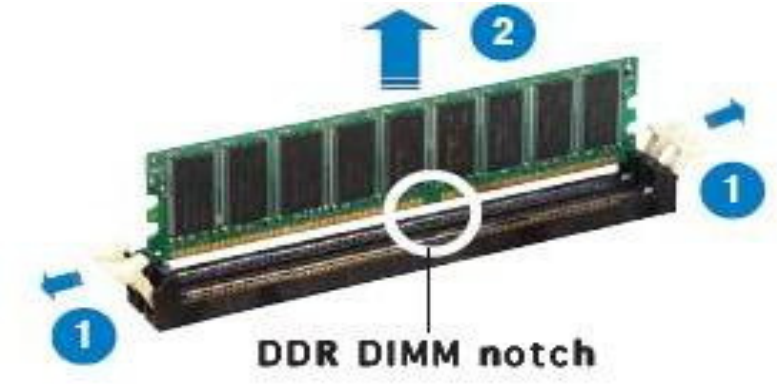
A DDR DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM.

3. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated



Follow these steps to remove a DIMM:

1. Simultaneously press the retaining clips outward to unlock the DIMM



2.7 Remove and Install Compact Flash Card

1. Insert the Compact Flash Card into the CF interface

Compact Flash Card

Insert Compact Flash Card into the CF interface

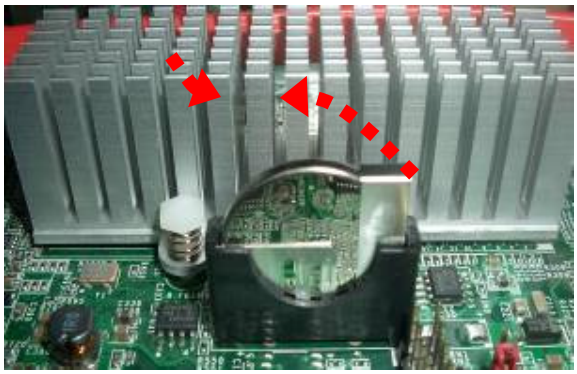
2. The completed installation of Compact Flash Card is shown as

Completion of Compact Flash Card connection

2.8 Remove and Install Battery

1. Press the metal clip back to eject the button battery

2. Replace it with a new one by pressing the battery with fingertip to restore the battery



Eject the battery

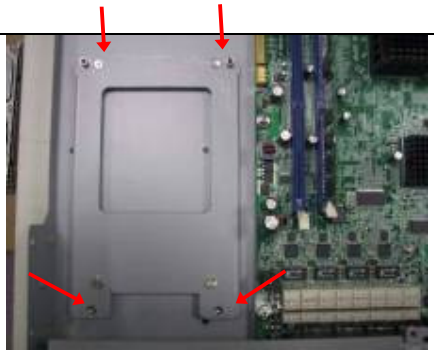
Restore the battery

2.9 Install HDD

The system has an internal drive bay for one 3.5" or 2.5”SATA hard disk drive. If the HDD is not pre-installed, you can install it by yourself. Follow the steps below to install the HDD:

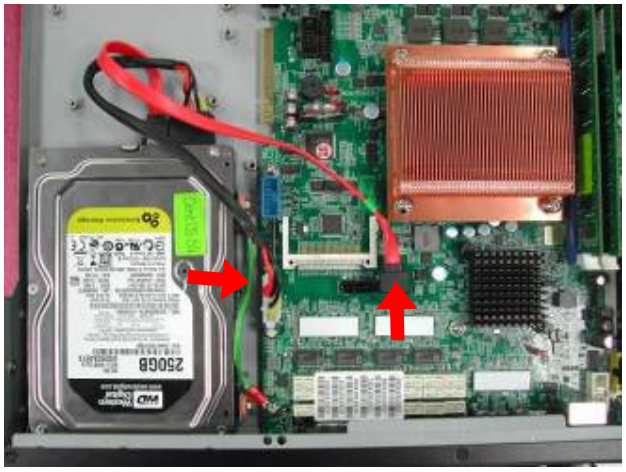
There are three hard disk kits in the CAR-3020 system :Hard disk fixed plate and hard disk tray

1. No add any card, use 3.5” HDD kit:



3.5”HDD Kit install HDD bracket

Fix the hard disk drive on the HDD Bracket with four screws.	Fasten the two screws to lock Hard disk fixed plate and chassis

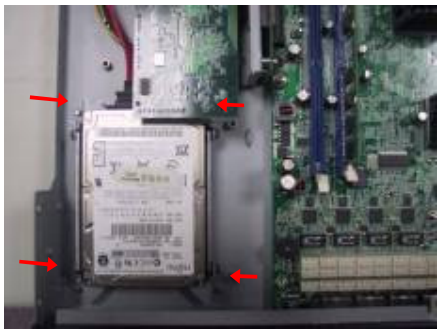


Connect Power cable and HDD cable to CAR-3020 system board

2. When add standard card, use 2.5” HDD kit 1:

2.5”HDD Kit 1

Fix the hard disk drive on the HDD. Bracket with four screws.



Fasten the four screws to lock Hard disk fixed plate and chassis

Connect Power cable and HDD cable to CAR-3020 system board

3. When add ABN series card, use 2.5” HDD kit 2:

2.5”HDD Kit 2

Fix the hard disk drive on the HDD.

Bracket with four screws.

Fix the copper pillar on the riser card with two screws.

Fasten the four screws to lock Hard disk

fixed plate and chassis

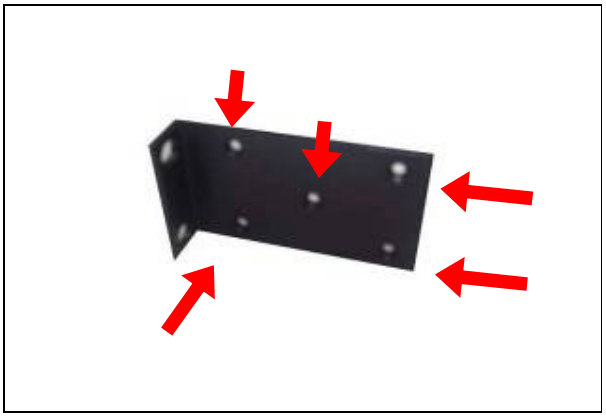
Connect Power cable and HDD cable

to CAR-3020 system board

2.10 Ear Mount Kit Installation

The CAR-3020 series shipped with 2 ear mount kits. The following is the installation instruction of these ear mounts:

1. Take out the L shape ear mount kits. One ear mount fits on one side of the chassis,
2. Placing the side with four holes agonists the chassis and the side with two holes face outward.
3. Fasten five screws on each side



Fasten the screws to the side

2.11 Remove EZIO / LCD

The CAR-3020 series support EZIO modules. The following is the remove instruction of these EZIO/LCD modules:

1. Remove all cables from EZIO

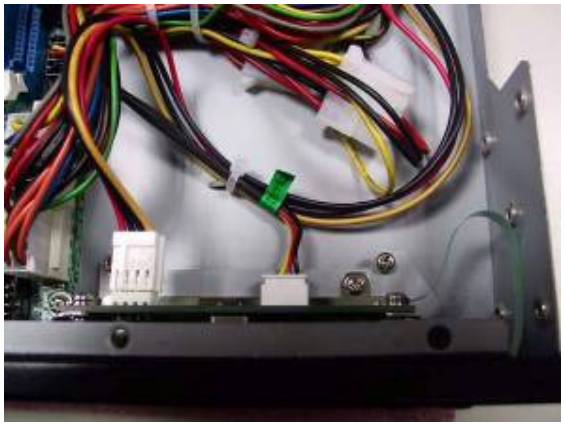


Fig.2-14 *Remove the cable from EZIO*

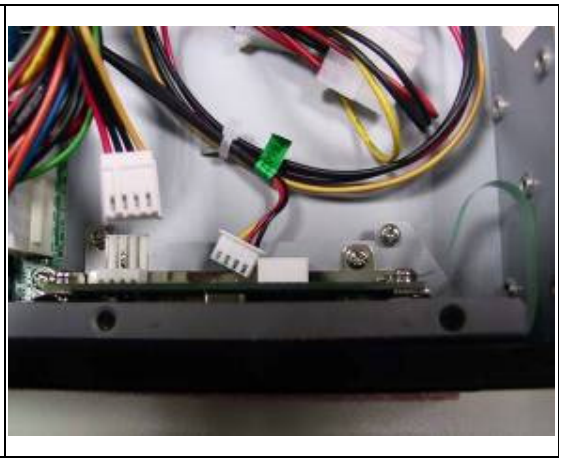


Fig.2-15 *After remove the cable from EZIO*

1. Remove the screws from chassis.

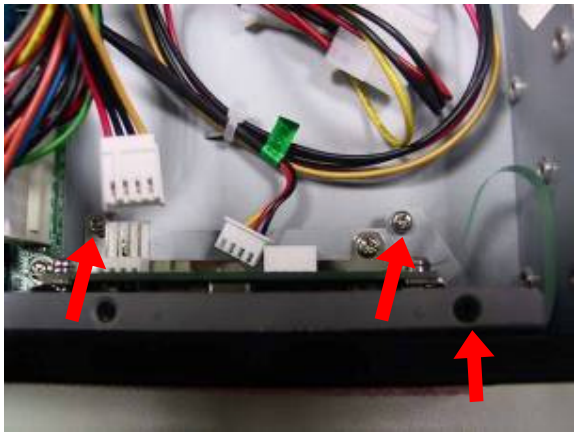


Fig.2-16 *Remove the screws from EZIO*

Fig.2-17 *Remove screws from chassis.*

EZIO

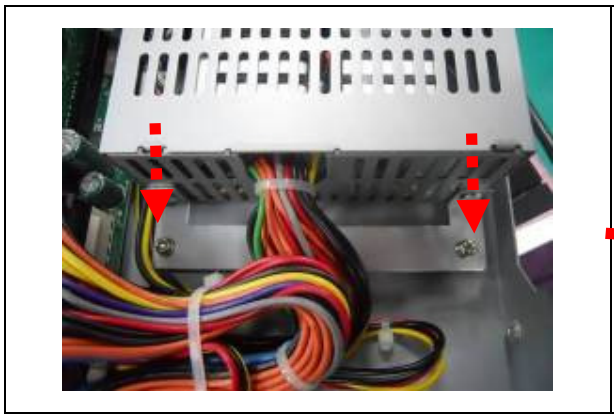
2.12 Remove Power Supply

The following is the remove step instruction of power supply.

1. Remove all power cables from main board.
2. Remove the screws from PSU

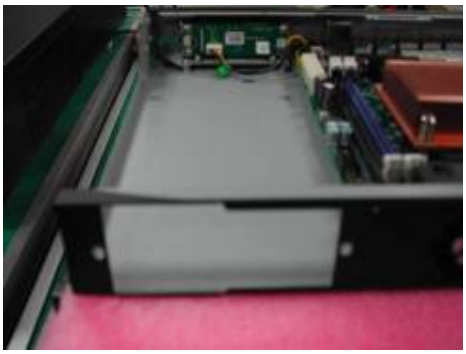
Remove all cables from board

Remove all cables from board



Remove the screws from PSU

Remove the screws from PSU



Complete remove power supply

2.13 Remove main board

The following is the remove step instruction of main board.

1. Remove all cables and heatsink from main board.
2. Remove all screws from main board.

Remove all cables and heatsink from main board

Complete remove main board

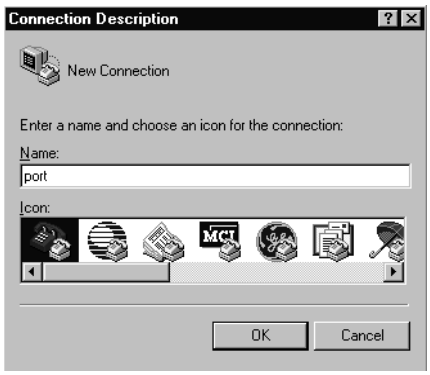
Connection Using Hyper Terminal

If users use a headless CAR-3020 system, which has no mouse/keyboard and VGA output connected to it, the console may be used to communicate with CAR-3020.

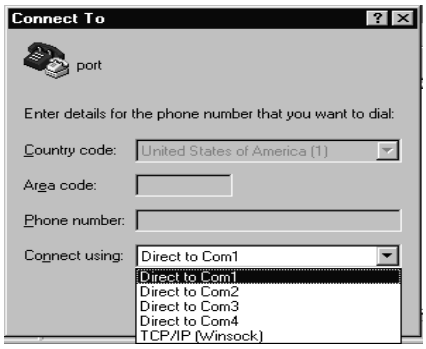
To access CAR-3020 via the console, Hyper Terminal is one of many choices. Follow the steps below for the setup:

Note: Terminal software may need to update for correct console output.

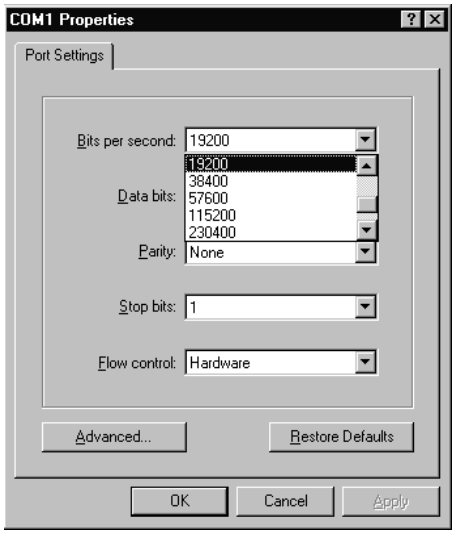
1. Execute HyperTerminal under C:\Program Files\Accessories\HyperTerminal
2. Enter a name to create new dial



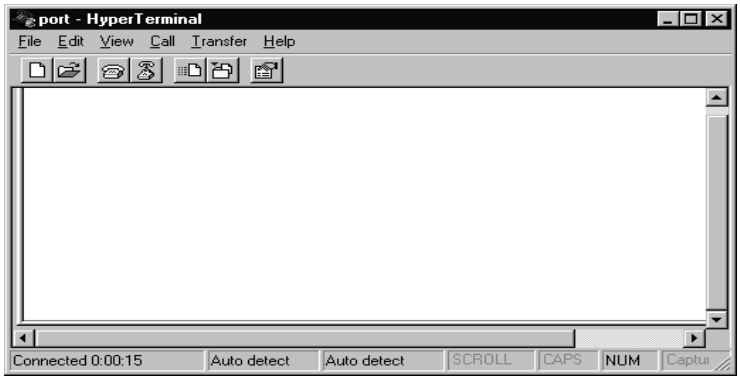
3. For the connection settings, make it Direct to Com1.



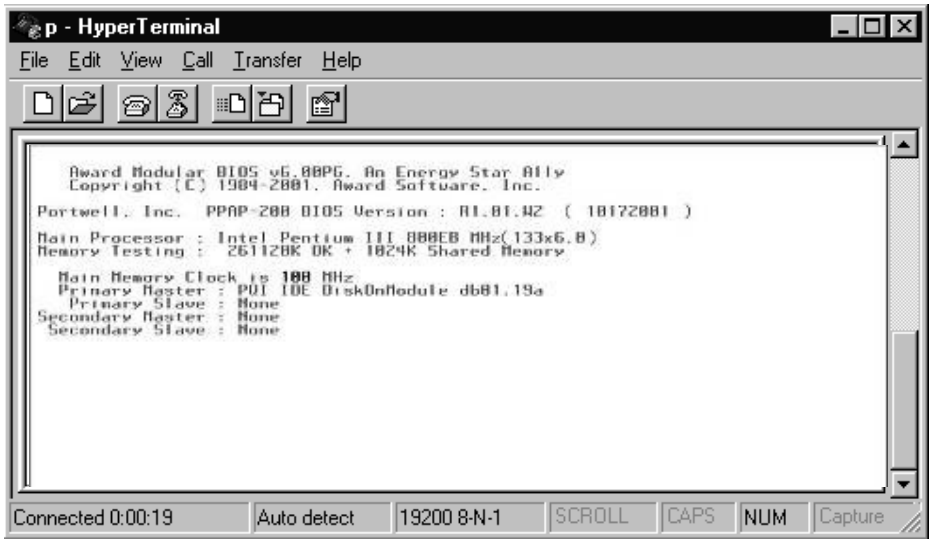
4. Please make the port settings to Baud rate 19200, Parity None, Data bits 8, Stop bits 1



5. Turn on the power of CAR-3020 system, after following screen was shown:



6. You can then see the boot up information of CAR-3020.


p - HyperTerminal
File Edit View Call Transfer Help
Award Modular BIOS v6.00PG, An Energy Star Ally
Copyright (C) 1984-2001, Award Software, Inc.
Portwell, Inc. PPAP-200 BIOS Version : A1.01.02 (10172001)
Main Processor : Intel Pentium III 800EB MHz(133x6.0)
Memory Testing : 261120K OK + 1024K Shared Memory
Main Memory Clock is 100 MHz
Primary Master : PQI IDE DiskOnModule db01.19a
Primary Slave : None
Secondary Master : None
Secondary Slave : None
Connected 0:00:19
Auto detect
19200 8-N-1
SCROLL
CAPS
NUM
Capture

7. When message “Hit <DEL> if you want to run Setup” appear during POST, after turning on or rebooting the computer, press **<Tab>** key ***immediately*** to enter BIOS setup program.

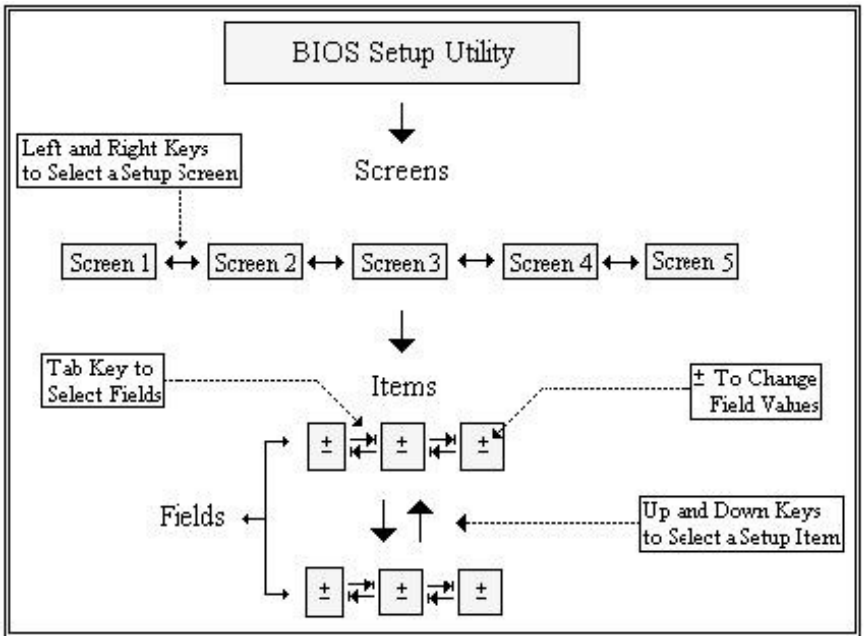
This is the end of this section. If the terminal did not port correctly, please check the previous steps.

Chapter 3 BIOS Setting

3.1 BIOS Setup Information

Power on the system, press the <Del> to run BIOS setup (remote mode is <Tab>). After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset and Power menus.

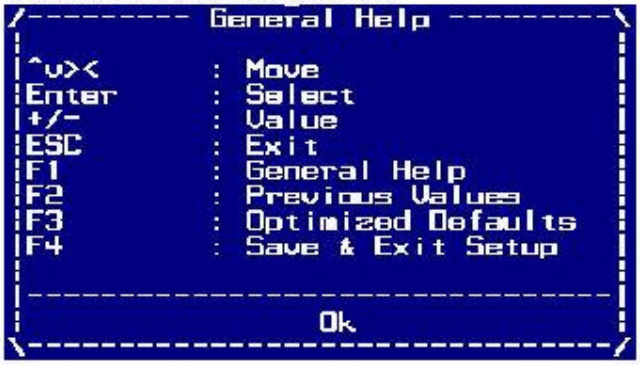
The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F4> <Enter>, <ESC>, <Arrow> keys, and so on.



Control Keys

Key	Function
↑↓**Up /Down**	The Up and Down <Arrow> keys allow you to select a setup item or sub-screen.
→ ← **Left/Right**	The Left and Right <Arrow> keys allow you to select a setup screen. For example: Main screen, Advanced screen, Chipset screen, and so on.

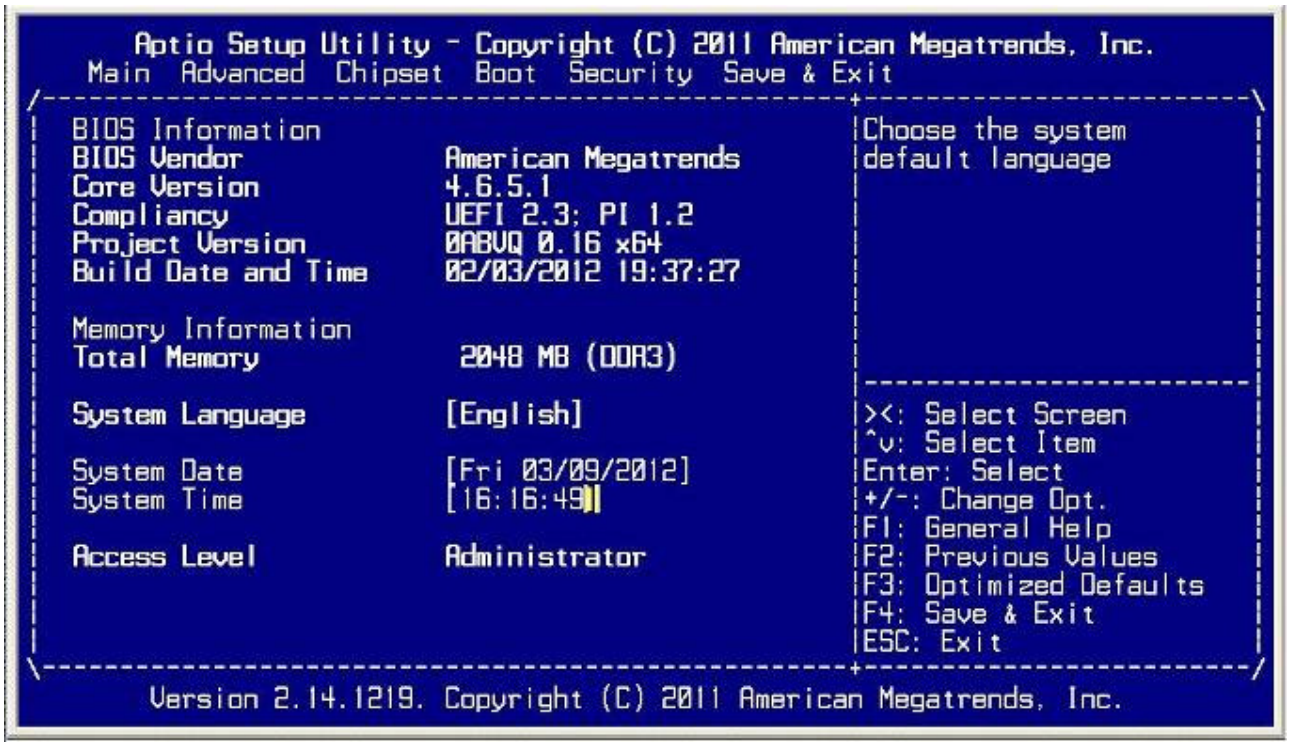
+ - **Plus/ Minus**	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item. For example: Date and Time.

Hot Key	Description
F1	The <F1> key allows you to display the *General Help screen*. Press the <F1> key to open the *General Help screen*. 
F4	The <F4> key allows you to save any changes you have made and exit Setup. Press the <F4> key to save your changes. The following screen will appear: Press the <Enter> key to save the configuration and exit. You can also use the <Arrow> key to select *Cancel* and then press the <Enter> key to abort this function and return to the previous screen.
ESC	The <Esc> key allows you to discard any changes you have made and exit the Setup. Press the <Esc> key to exit the setup without saving your changes. The following screen will appear: Press the <Enter> key to discard changes and exit. You can also use the <Arrow> key to select *Cancel* and then press the <Enter> key to abort this function and return to the previous screen.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub- screens.

Main Menu

When you first enter the Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section.

In console mode:



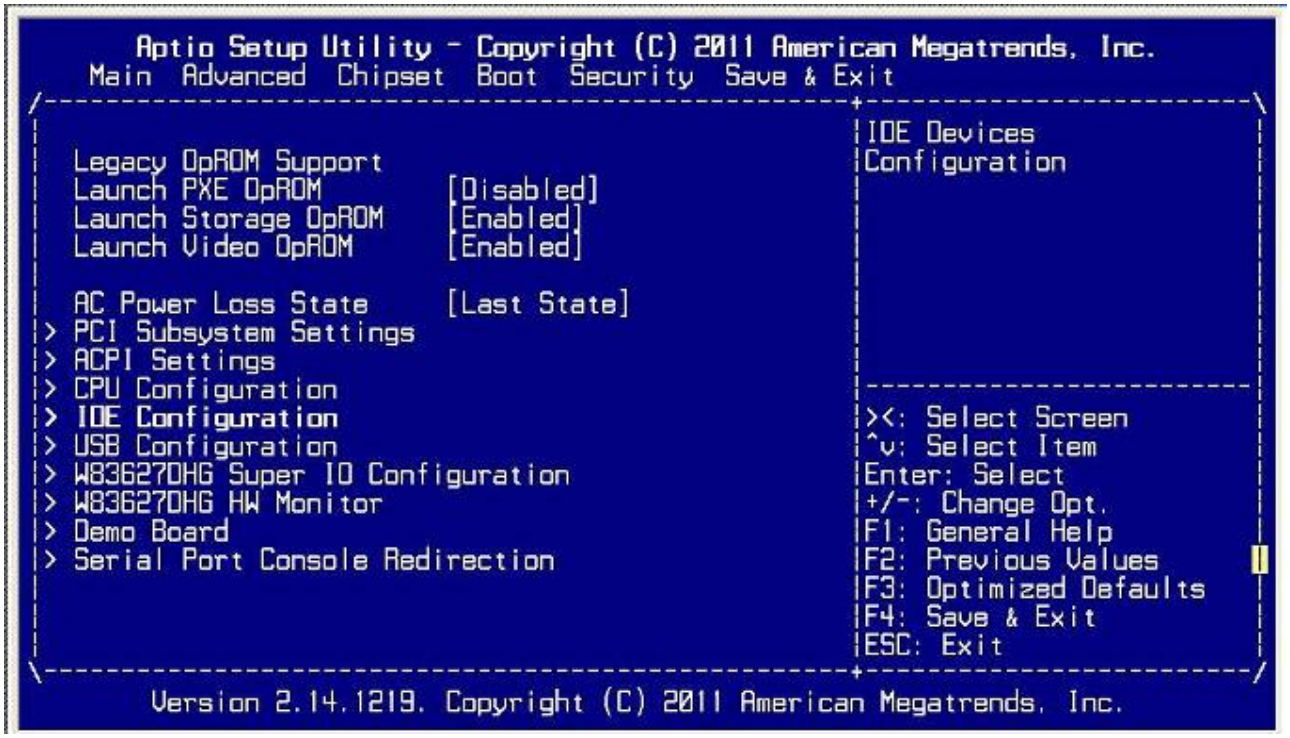
➢ System Date / Time

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

➢ Advanced BIOS Setup

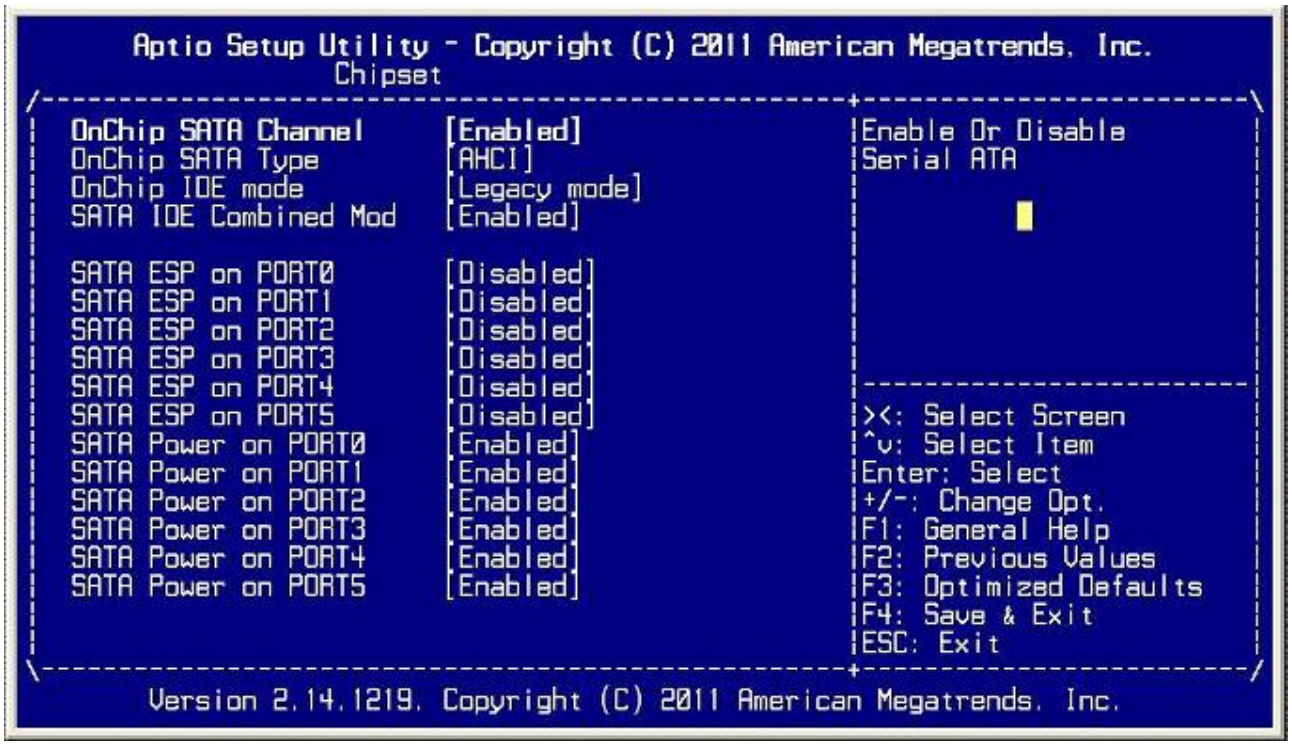
Select the Advanced tab from the setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as SuperIO Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below.

The sub menus are described on the following pages.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
Legacy OpROM Support
Launch PXE OpROM [Disabled]
Launch Storage OpROM [Enabled]
Launch Video OpROM [Enabled]
AC Power Loss State [Last State]
> PCI Subsystem Settings
> ACPI Settings
> CPU Configuration
> IDE Configuration
> USB Configuration
> W83627DHG Super IO Configuration
> W83627DHG HW Monitor
> Demo Board
> Serial Port Console Redirection
IDE Devices Configuration
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

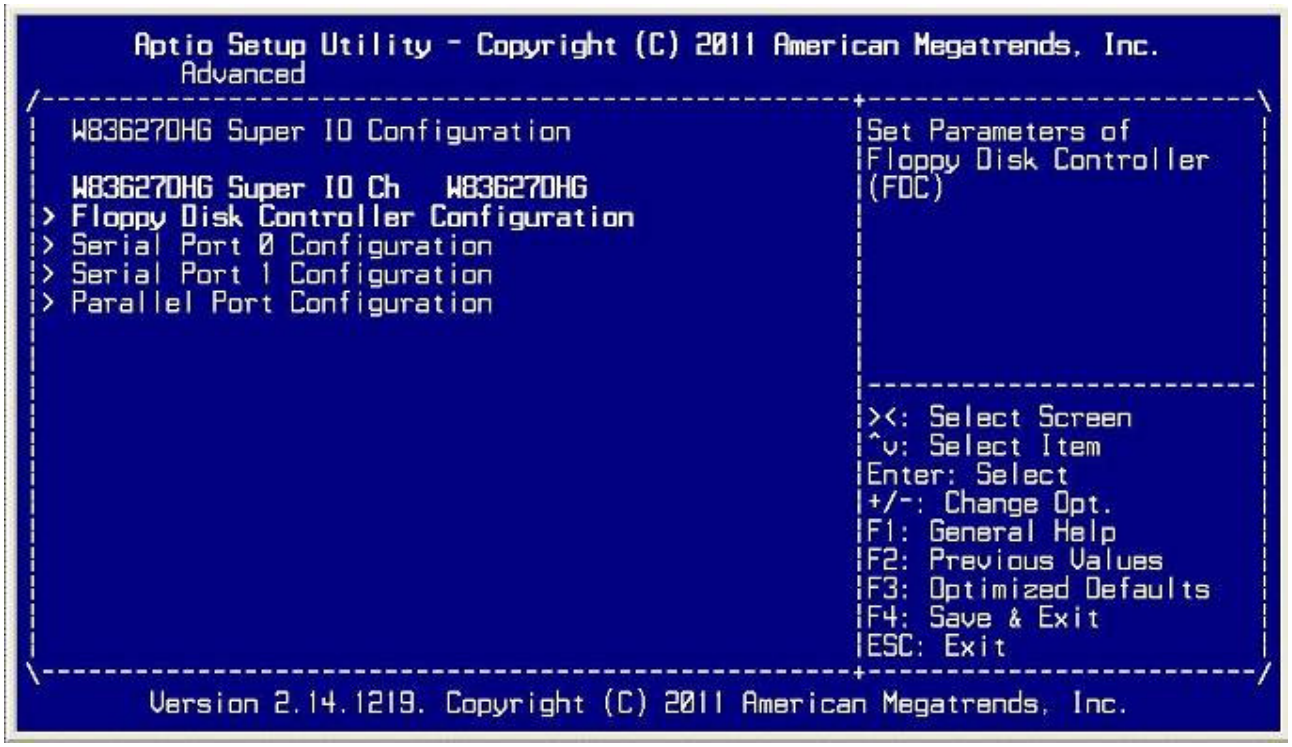
➢ IDE Configuration Setup

From the IDE Configuration screen, press <Enter> to access the sub menu. Use the up and down <Arrow> keys to select an item. The settings are described on the following pages.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Chipset
OnChip SATA Channel [Enabled]
OnChip SATA Type [AHCI]
OnChip IDE mode [Legacy mode]
SATA IDE Combined Mod [Enabled]
SATA ESP on PORT0 [Disabled]
SATA ESP on PORT1 [Disabled]
SATA ESP on PORT2 [Disabled]
SATA ESP on PORT3 [Disabled]
SATA ESP on PORT4 [Disabled]
SATA ESP on PORT5 [Disabled]
SATA Power on PORT0 [Enabled]
SATA Power on PORT1 [Enabled]
SATA Power on PORT2 [Enabled]
SATA Power on PORT3 [Enabled]
SATA Power on PORT4 [Enabled]
SATA Power on PORT5 [Enabled]
Enable Or Disable Serial ATA
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

➢ Super IO Configuration

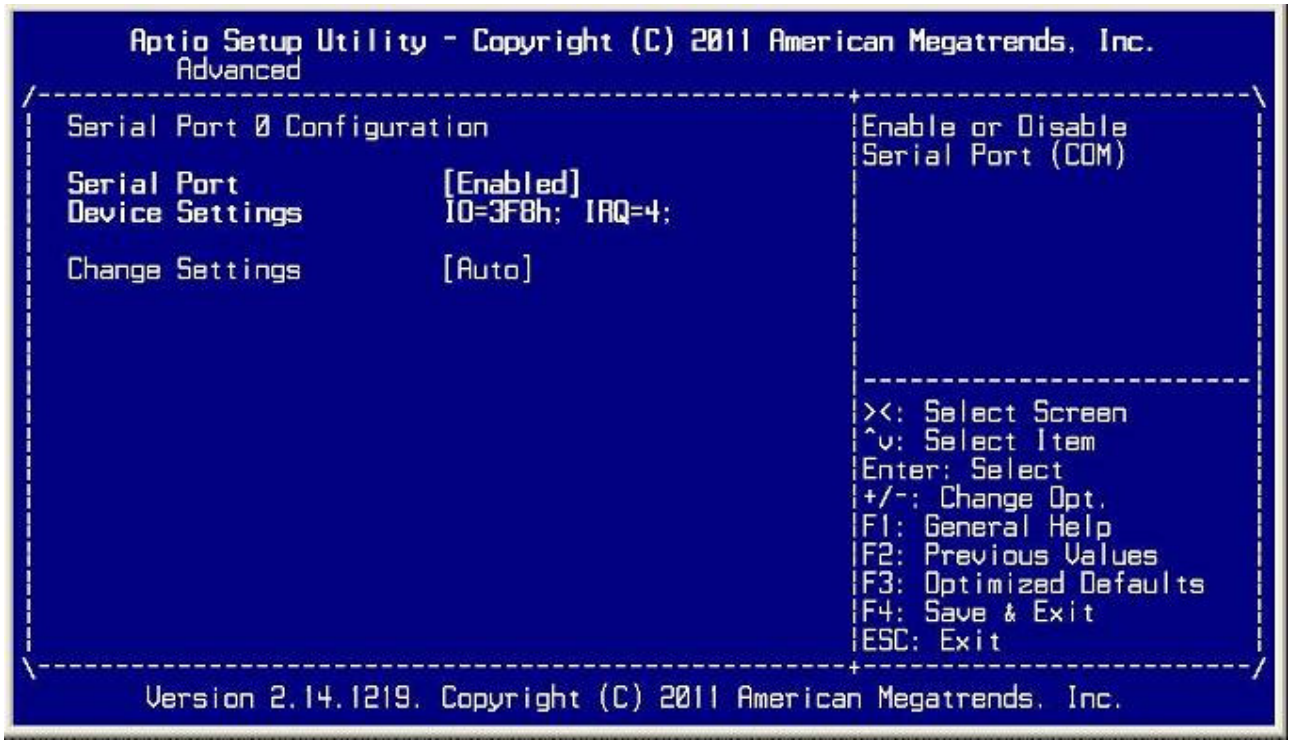
You can use this screen to select options for the Super I/O settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
W83627DHG Super IO Configuration
W83627DHG Super IO Ch W83627DHG
> Floppy Disk Controller Configuration
> Serial Port 0 Configuration
> Serial Port 1 Configuration
> Parallel Port Configuration
Set Parameters of Floppy Disk Controller (FDC)
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

➢ REMOTE ACCESS CONFIGURATION

Remote Access Configuration

You can use this screen to select options for the Remote Access Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below



➢ Remote Access

You can disable or enable the BIOS remote access feature here.

➢ SerialPort Number

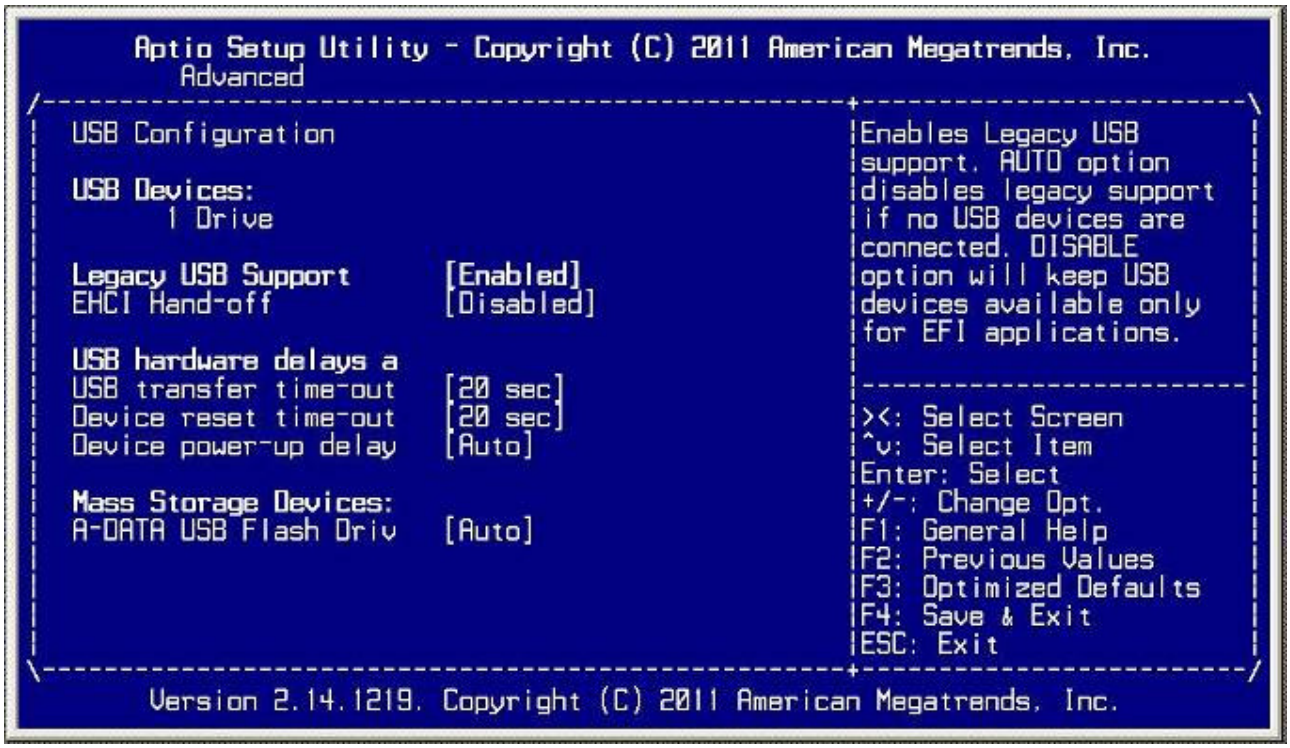
Select the serial port you want to use for console redirection. You can set the value for this option to either COM1.

➢ SerialPort Mode

Select the baud rate you want the serial port to use for console redirection.

➢ USB Configuration

You can use this screen to select options for the USB Configuration. Use the up and down<Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

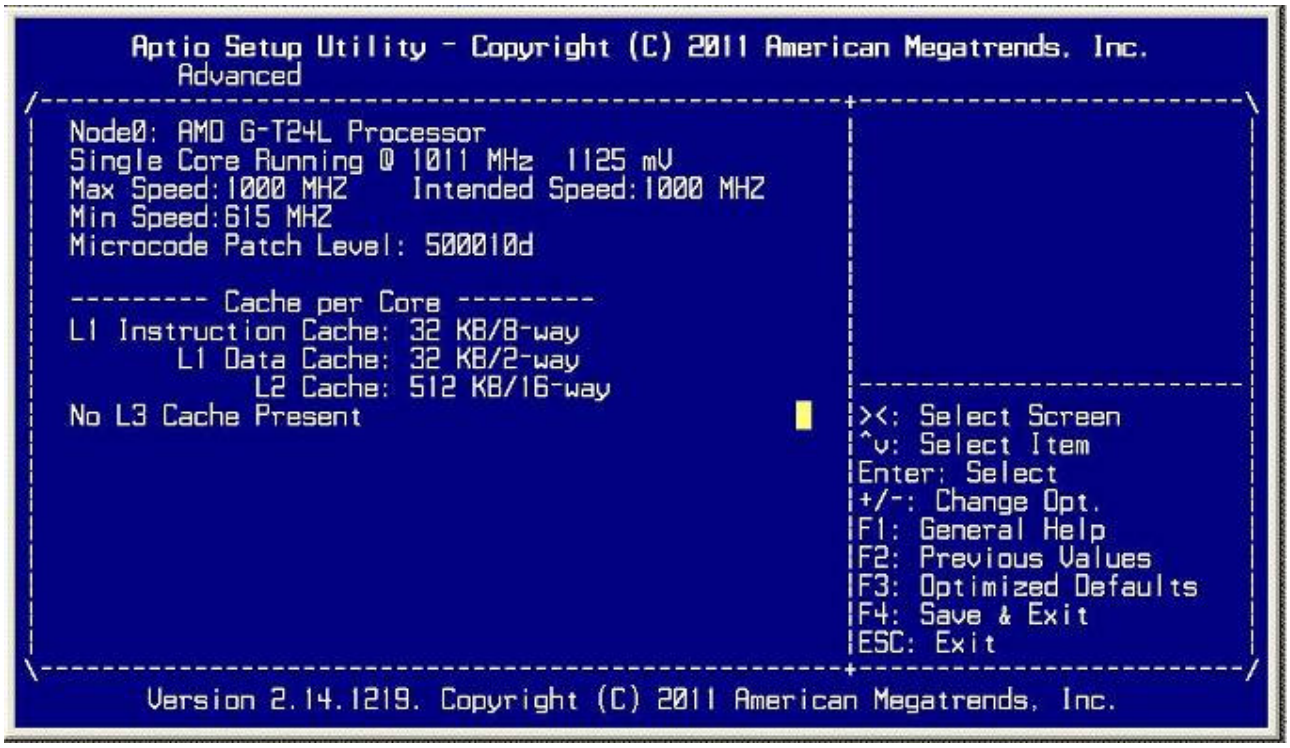

Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
USB Configuration
USB Devices:
1 Drive
Legacy USB Support [Enabled]
EHCI Hand-off [Disabled]
USB hardware delays a
USB transfer time-out [20 sec]
Device reset time-out [20 sec]
Device power-up delay [Auto]
Mass Storage Devices:
A-DATA USB Flash Driv [Auto]
Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

➢ Legacy USB Support

Legacy USB Support refers to the USB mouse and USB keyboard support. Normally if this option is not enabled, any attached USB mouse or USB keyboard will not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB mouse or USB keyboard can control the system even when there is no USB drivers loaded on the system. Set this value to enable or disable the Legacy USB Support. The Optimal and Fail-Safe default setting is Disabled.

➢ CPU Configuration (Node 0 Information)

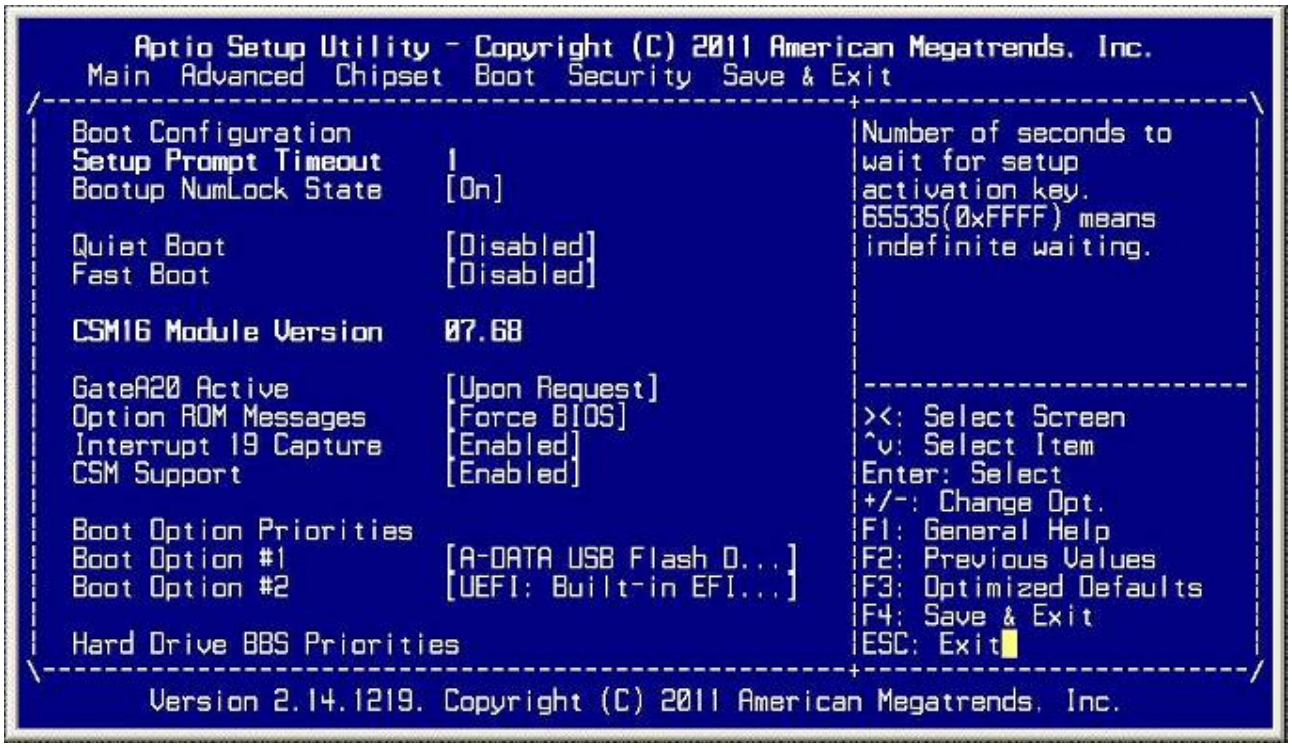
You can use this screen to select options for the CPU Configuration. Use the up and down<Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
Node0: AMD G-T24L Processor
Single Core Running @ 1011 MHz 1125 mV
Max Speed:1000 MHZ Intended Speed:1000 MHZ
Min Speed:615 MHZ
Microcode Patch Level: 500010d
--------- Cache per Core ---------
L1 Instruction Cache: 32 KB/8-way
L1 Data Cache: 32 KB/2-way
L2 Cache: 512 KB/16-way
No L3 Cache Present
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Note: The CPU Configuration setup screen varies depending on the installed processor.

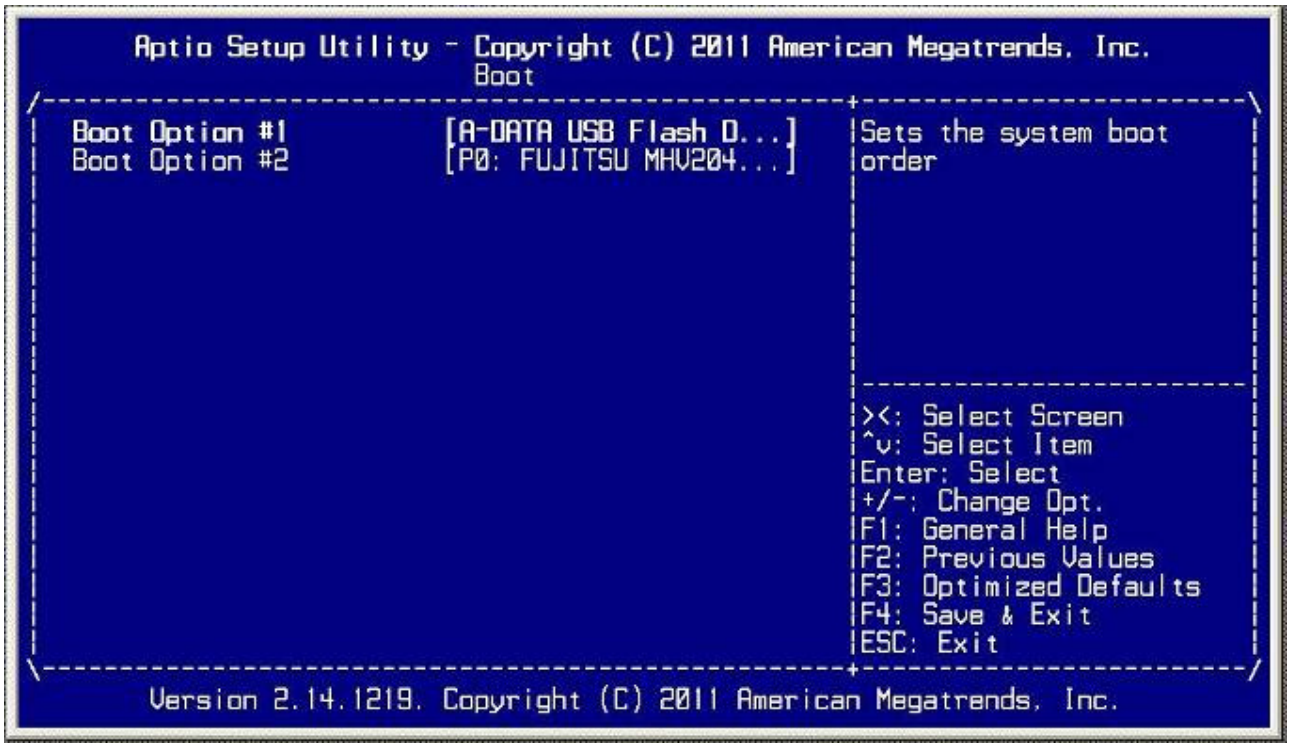
➢ Boot Settings

Select the Boot tab from the setup screen to enter the Boot BIOS Setup screen.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
Boot Configuration
Setup Prompt Timeout 1
Bootup NumLock State [On]
Quiet Boot [Disabled]
Fast Boot [Disabled]
CSM16 Module Version 07.68
GateA20 Active [Upon Request]
Option ROM Messages [Force BIOS]
Interrupt 19 Capture [Enabled]
CSM Support [Enabled]
Boot Option Priorities
Boot Option #1 [A-DATA USB Flash D...]
Boot Option #2 [UEFI: Built-in EFI...]
Hard Drive BBS Priorities
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

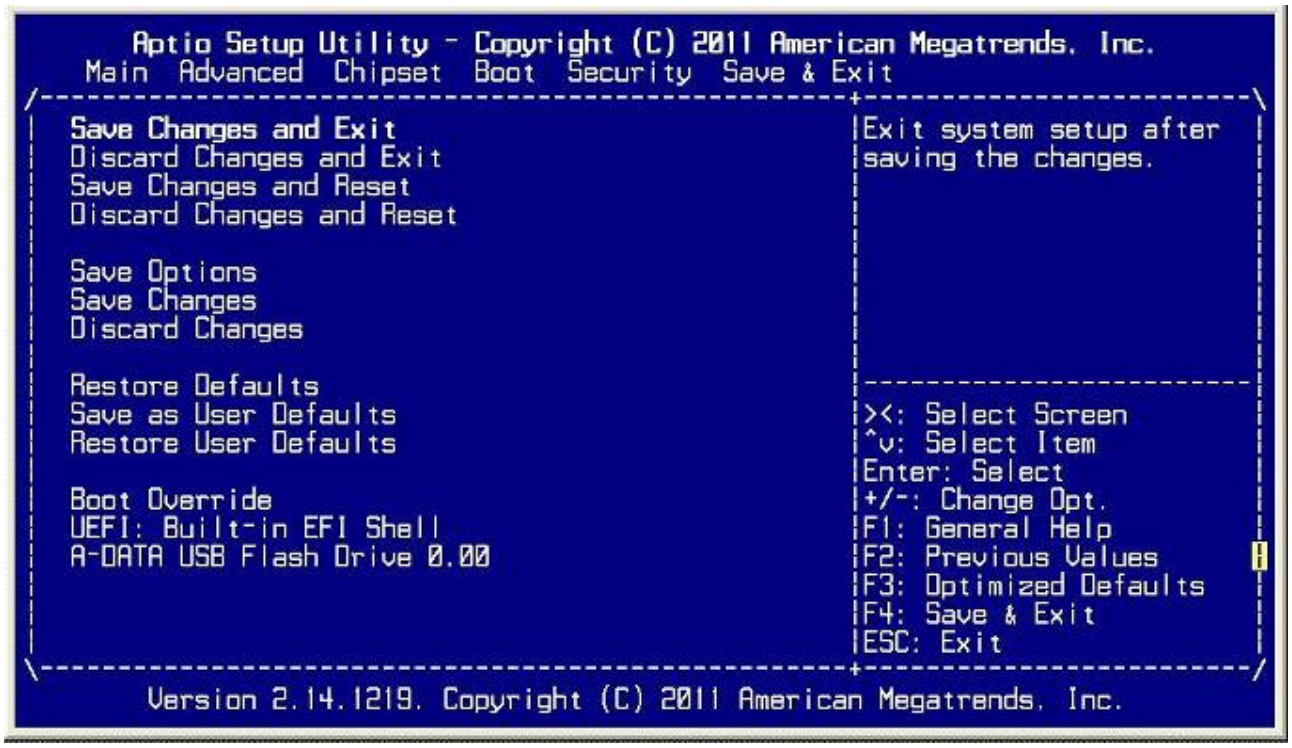
➢ BOOT DEVICE PRIORITY

Use this screen to specify the order in which the system checks for the device to boot from. To access this screen, select Boot Device Priority on the Boot Setup screen and press<Enter>. The following screen displays:


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Boot
Boot Option #1 [A-DATA USB Flash D...]
Boot Option #2 [P0: FUJITSU MHV204...]
Sets the system boot order
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

➢ Exit Menu

Select the Exit tab from the setup screen to enter the Exit BIOS Setup screen. You can display an Exit BIOS Setup option by highlighting it using the <Arrow> keys. All Exit BIOS Setup options are described in this section. The Exit BIOS Setup screen is shown below.



➢ Saving Changes and Exit

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Exit Saving Changes from the Exit menu and press <Enter>.

➢ Discard Changes and Exit

Select this option to quit Setup without making any permanent changes to the system configuration. Select Exit Discarding Changes from the Exit menu and press <Enter>.

➢ Saving Changes and Exit

Reset the system after saving the changes.

➢ Discard Changes and Reset

Reset system setup without saving any changes.

➢ Save Changes

Save changes done so far to any of the setup options.

➢ Discard Changes

Discard Changes done so far to any of the setup options.

➢ Restore Defaults

Restore/Load Default values for all the setup options.

➢ Save as User Defaults

Save the changes done so far as User Defaults.

➢ Restore User Defaults

Restore the User Defaults to all the setup options.

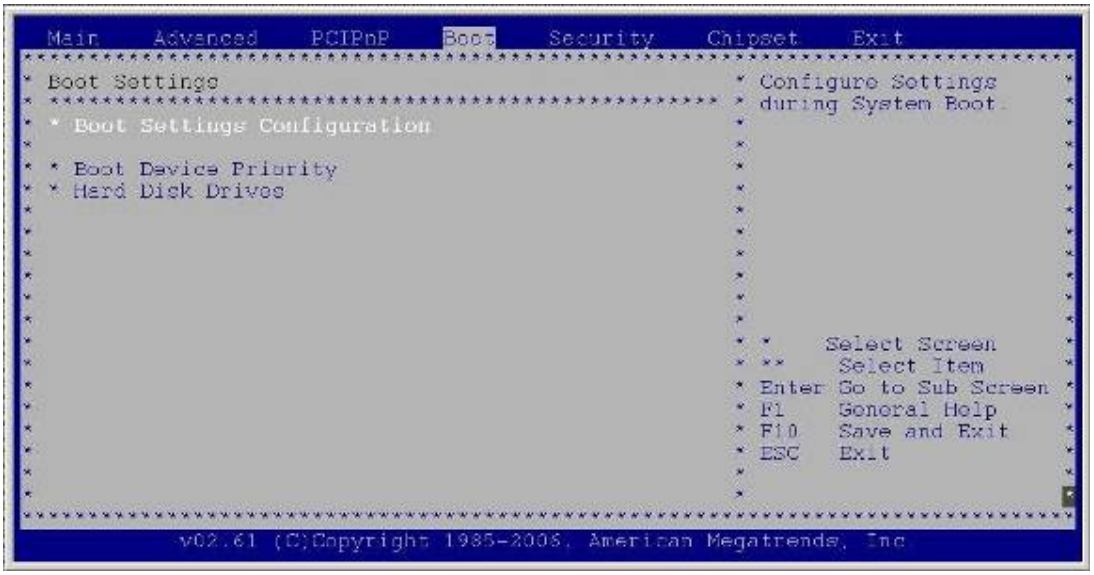
➢ CPU Configuration

Use this screen to select options for the CPU Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option.

Note: The CPU Configuration setup screen varies depending on the installed processor.

➢ Boot Settings

Select the Boot tab from the setup screen to enter the Boot BIOS Setup screen.



➢ BOOT SETTINGS CONFIGURATION SCREEN

Boot Settings Configuration

Use this screen to select options for the Boot Settings Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

Aptio Setup Utility – Copyright (C) 2008 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
Boot Configuration
Quiet Boot [Disabled]
Setup Prompt Timeout 1
CSM16 Module Verison 07.62
GateA20 Active [Upon Request]
Option ROM Messages [Force BIOS]
Interrupt 19 Capture [Disabled]
Set Boot Priority
1st Boot [USB Floppy]
2nd Boot [USB CD/DVD Rom]
3rd Boot [USB HardDisk]
4th Boot [Hard Disk: WDC WD5...]
5th Boot [Network Device:IBA...]
6th Boot [CD/DVD Rom]
Enables/Disables Quiet Boot option
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
Version 1.24.1115. Copyright (C) 2008 American Megatrends, Inc.
AB

➢ Quiet Boot

Set this value to allow the boot up screen options to be modified between POST messages or OEM logo. The Optimal and Fail-Safe default setting is Enabled.

➢ Option ROM Display Mode

Set this option to display add-on ROM (read-only memory) messages. The Optimal and Fail-Safe default setting is Force BIOS. An example of this is a SCSI BIOS or VGA BIOS.

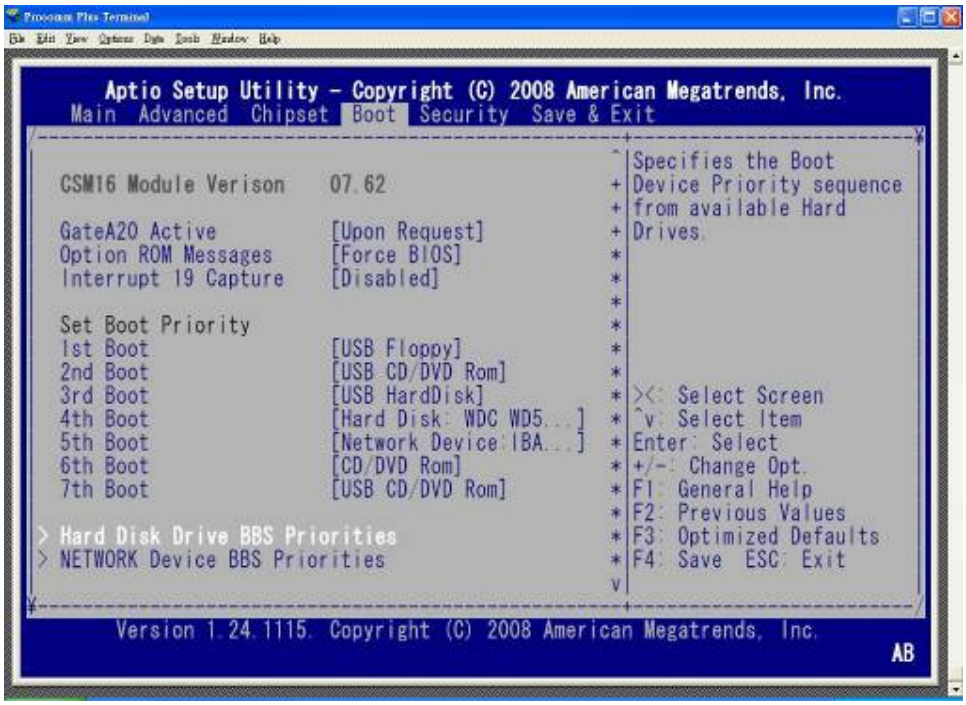
➢ Interrupt 19 Capture

Set this value to allow option ROMs such as network controllers to trap BIOS interrupt 19.

➢ BOOT DEVICE PRIORITY

Hard Disk Boot Device Priority

Use this screen to specify the order in which the system checks for the device to boot from. To access this screen, select Boot Device Priority on the Boot Setup screen and press <Enter>. The following screen displays:


Aptio Setup Utility – Copyright (C) 2008 American Megatrends, Inc.
Main Advanced Chipset Boot Security Save & Exit
CSM16 Module Verison 07.62
GateA20 Active [Upon Request]
Option ROM Messages [Force BIOS]
Interrupt 19 Capture [Disabled]
Set Boot Priority
1st Boot [USB Floppy]
2nd Boot [USB CD/DVD Rom]
3rd Boot [USB HardDisk]
4th Boot [Hard Disk: WDC WD5...]
5th Boot [Network Device:IBA...]
6th Boot [CD/DVD Rom]
7th Boot [USB CD/DVD Rom]
> Hard Disk Drive BBS Priorities
> NETWORK Device BBS Priorities
Specifies the Boot Device Priority sequence from available Hard Drives.
><: Select Screen
^v: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save ESC: Exit
Version 1.24.1115. Copyright (C) 2008 American Megatrends, Inc.
AB

➢ Exit Menu

Select the Exit tab from the setup screen to enter the Exit BIOS Setup screen. Display an Exit BIOS Setup option by highlighting it using the <Arrow> keys. All Exit BIOS Setup options are described in this section. The Exit BIOS Setup screen is shown below.

➢ Saving Changes and Exit

When completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Exit Saving Changes from the Exit menu and press <Enter>.

➢ Discard Changes and Exit

Select this option to quit Setup without making any permanent changes to the system configuration. Select Exit Discarding Changes from the Exit menu and press <Enter>.

➢ Discard Changes

Select Discard Changes from the Exit menu and press <Enter>.

➢ Restore Defaults

Automatically sets all Setup options to a complete set of default settings when select this option. Select Load Optimal Defaults from the Exit menu and press <Enter>.